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Proposal: CAN 85

19 September 1957

STATEMENT OF WORK
ADDED PRODUCTION WORK AND REWORK
ON 3-CHANNEL DATA-REDUCTION EQUIPMENT
FOR SYSTEMS 1 AND 3

The Contractor proposes to supply necessary engineering, labor, facilities, and materials for the rework or new fabrication and assembly, test, packing, and shipment of the following units of 3-Channel Data-Reduction equipment:

1. Build Seventy-Two (72) Playback-Record Amplifiers for Installation in the A and C Racks.

The playback-record amplifiers were completely redesigned to meet bandwidth and dynamic range requirements. Forty (40) previously constructed units were obsoleted.

2. Build Twenty-Four (24) New Bias Amplifier Chassis.

The bias amplifier was originally part of the playback-record amplifier. As a result of the redesign, three bias amplifiers were designed on one plug-in chassis. The original bias amplifier mounted on the record-playback amplifier was obsoleted.

3. Rebuild Nineteen (19) Monitor Units Including The Erase Amplifier.

The monitor unit was completely rebuilt to accommodate the new playback-record amplifiers and the new bias amplifiers. All components were removed from the old units and only the chassis was used. The monitor units which had not been previously built were constructed to the new design, and the cost is estimated to be approximately the same as for the previous design.

4. Rebuild Nineteen (19) Mixer Units.

The mixer unit was completely redesigned and rebuilt. Only the old chassis was used in fabricating the new units. Those units which had not been previously fabricated were built to the new design, and the cost is estimated to be about equal to the former configuration.

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5. The Rework Of Seven (7) Playback And Duplicating Racks (A, B1, And B2 Racks) Including The Following:

- a. Addition of capstan motor shields to reduce hum pick-up.
- b. Addition of shields to transformer and chokes in power supplies to reduce hum pick-up.
- c. Rerouting of wires, addition of shield wires and connectors to reduce ground loops and hum pick-up.
- d. Modification of the power supply to increase stability.
- e. Addition of shields to Voice Readout transport solenoids and damping circuits to reduce pulse pick-up.
- f. Replacement of 1-kc and 4-kc filters in the time-mark generator.
- g. Installation of Voice Readout monitor jack in the time-mark generator.
- h. Modification of ten-second mark oscillator to increase stability in the time-mark generator.
- i. Addition of shields to transformers and chokes to reduce hum radiation in the time-mark generator.
- j. Modification of Voice Readout amplifier in the transport sequence control to extend the frequency range, increase the stability, and reduce microphonics in the amplifier tubes.
- k. Modification and rerouting of chassis wiring to reduce ground loops and crosstalk in the transport-sequence control.
- l. Addition of relays to increase reliability of automatic operation in the transport-sequence control.
- m. Addition of circuitry in the transport-sequence control to automatically cut off the Voice Readout amplifier when the transport is stationary to reduce pulse and noise pick-up.

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19 September 19576. Rework Of Fourteen (14) 3-Channel Analyzing Playback Equipment Racks (C Rack) Including:

- a. Installation of new monitors, mixers, and amplifiers.
- b. Change location of the monitor and mixer to decrease hum pick-up.
- c. Additions of shields to capstan motor, transformers, and chokes to reduce hum pick-up.
- d. Rerouting of wires and cables to reduce hum pick-up.
- e. Elimination of the erase power supply and reconstruction of the amplifier power supply to incorporate the function of the former. This change included installation of shielding, the entire modification serving to reduce the hum pick-up.

7. Rework Fifteen (15) Event Marker Equipment Racks (F Racks) Including:

- a. Installation of new pen motors to increase dynamic range.
- b. Construction of new pen-motor amplifiers to increase dynamic range.
- c. Installation of new band-pass filters providing higher attenuation between adjacent channels.
- d. Installation of new amplifiers to match the new band-pass filters.
- e. Modification of the layout of plug-in amplifiers to reduce crosstalk.

8. Preparation of Three (3) Field Modification Kits for A, B1, And B2 Racks.

Each kit includes a monitor chassis with three playback-record amplifiers, one bias amplifier chassis, one mixer chassis, one time-mark generator, one sequence-control unit, two motor shields, four transformer and choke shields, and miscellaneous cables and connectors. The kit is designed to permit modification of these racks in the field by skilled maintenance personnel.

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